

AMENDMENT TO THE CLAIMS

Please amend the claims to be as follows:

Claim 1 (currently amended): A method of inspecting and/or characterizing a substrate, comprising:

impinging an incident beam of electrons onto a first region of said substrate;

obtaining a first dataset, wherein said first dataset includes data derived from an image collected by a first portion of a segmented electron detector of [[a]] said first region of said substrate;

obtaining a second dataset, wherein said second dataset includes data derived from an image collected by a second portion of said segmented electron detector of at least a portion of said first region of said substrate;

impinging the incident beam of electrons onto a second region of said substrate;

obtaining a third dataset, wherein said third dataset includes data derived from an image collected by said first portion of said segmented electron detector from [[a]] said second region of said substrate, wherein said second region of said substrate is expected to be substantially identical to said first region;

obtaining a fourth dataset, wherein said fourth dataset includes data derived from an image collected by said second portion of said segmented electron detector of at least a portion of said second region of said substrate; and

processing information derived from said first, second, third and fourth datasets to detect a defect in at least one of said first or second regions, wherein said information processing includes calculating a first function representing comparison between said first and third datasets and calculating a second function representing comparison between said second and fourth data sets, and

classifying the detected defect using output values of the first and second functions.

Claim 2 (currently amended): The method of Claim 1 wherein the step of processing information comprises:

calculating the difference signal for each pixel with said first detector portion,  
calculating the difference signal for each pixel with said second detector portion,  
performing a mathematical operation on the two difference signals, and comparing the result of said operation with a threshold.

Claims 3-17 (canceled)

Claim 18 (previously presented): The method of Claim 1, wherein said comparison is an image subtraction.

Claim 19 (canceled)

Claim 20 (previously presented): The method of Claim 1, wherein defects whose output values of the first and second functions cluster together are classified as a same defect type.

Claims 21-48 (canceled)